

What is claimed is:

1. A method of detecting a gas phase material comprising:
providing a sensor comprising first and second electrodes, a detection surface
extending between the first electrode and the second electrode, and a detector
operatively connected to the first and second electrodes;
exposing the detection surface to the gas phase material, wherein an electrically
conductive film forms on the detection surface between the first and second electrodes;
and
detecting a change in conductivity between the first and second electrodes with
the detector.

2. A method according to claim 1, wherein the gas phase material comprises
ruthenium.

3. A method according to claim 1, wherein the gas phase material comprises
ruthenium tetroxide.

4. A method according to claim 1, wherein the gas phase material comprises
iridium.

5. A method according to claim 1, wherein the gas phase material comprises
rhodium.

6. A method of detecting a gas phase material comprising:
providing a sensor comprising first and second electrodes, a detection surface
extending between the first electrode and the second electrode, and a detector
operatively connected to the first and second electrodes, wherein the detection surface is
not electrically conductive;
exposing the sensor to the gas phase material, wherein an electrically conductive
film forms on the detection surface between the first and second electrodes; and

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12. A sensor for detecting a gas phase material in an environment, the detector comprising:

first and second electrodes;

a detection surface extending between the first electrode and the second

electrode;

a detector operatively connected to the first and second electrodes.

13. A sensor according to claim 12, wherein the detection surface comprises a polymer.

14. A sensor according to claim 12, wherein the detection surface comprises polypropylene.

15. A sensor according to claim 12, wherein the detection surface comprises glass.

16. A sensor according to claim 12, wherein the detector comprises an electronic circuit capable of detecting a change in electrical conductivity between the first and second electrodes.

17. A sensor for detecting a gas phase material in an environment, the detector comprising:

first and second electrodes;

a detection surface extending between the first electrode and the second

electrode;

a heater capable of providing thermal energy to the detection surface; and

a detector operatively connected to the first and second electrodes.

18. A sensor according to claim 17, wherein the detection surface comprises a polymer.

19. A sensor according to claim 17, wherein the detection surface comprises glass.

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